GA-K8VM800M / GA-K8VM800M-RH
AMD Socket 754 Processor Motherboard

User's Manual
Rev. 2004
12ME-K8VM800M-2004R

* The WEEE marking on the product indicates this product must not be disposed of with user's other household waste and must be handed over to a designated collection point for the recycling of waste electrical and electronic equipment!!
* The WEEE marking applies only in European Union's member states.
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Product Manual Classification
In order to assist in the use of this product, Gigabyte has categorized the user manual in the following:

- For detailed product information and specifications, please carefully read the "Product User Manual".

- For detailed information related to Gigabyte's unique features, please go to "Technology Guide" section on Gigabyte's website to read or download the information you need.

For more product details, please click onto Gigabyte's website at www.gigabyte.com.tw
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GA-K8VM800M(-RH) Motherboard Layout
Block Diagram

AMD Athlon™ 64 processor (K8)

CPUCLK+/-(200MHz)

H.T. Bus 800MHz

DDR RAM 400/333/266/200MHz

PCICLK (33MHz)

PCICLK

AGP 4X/8X

AGPCLK (66MHz)

VGA Port

LAN RJ45

VIA 6103L

VIA K8M800

VIA VT8237R / VT8237R+

8 USB Ports

ATA33/66/100/133 IDE Channels

Audio CODEC

2 Serial ATA

MII-Link

AC97 Link

BIOS

IT8705

PS/2 KB/Mouse

IR

Floppy

LPT Port

2 COM Ports

33 MHz

24 MHz

66 MHz

14.318 MHz

33 MHz

14.318 MHz

66 MHz

14.318 MHz

66 MHz

14.318 MHz

66 MHz
Chapter 1 Hardware Installation

1-1 Considerations Prior to Installation

Preparing Your Computer
The motherboard contains numerous delicate electronic circuits and components which can become damaged as a result of electrostatic discharge (ESD). Thus, prior to installation, please follow the instructions below:
1. Please turn off the computer and unplug its power cord.
2. When handling the motherboard, avoid touching any metal leads or connectors.
3. It is best to wear an electrostatic discharge (ESD) cuff when handling electronic components (CPU, RAM).
4. Prior to installing the electronic components, please have these items on top of an antistatic pad or within a electrostatic shielding container.
5. Please verify that the power supply is switched off before unplugging the power supply connector from the motherboard.

Installation Notices
1. Prior to installation, please do not remove the stickers on the motherboard. These stickers are required for warranty validation.
2. Prior to the installation of the motherboard or any hardware, please first carefully read the information in the provided manual.
3. Before using the product, please verify that all cables and power connectors are connected.
4. To prevent damage to the motherboard, please do not allow screws to come in contact with the motherboard circuit or its components.
5. Please make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
6. Please do not place the computer system on an uneven surface.
7. Turning on the computer power during the installation process can lead to damage to system components as well as physical harm to the user.
8. If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.

Instances of Non-Warranty
1. Damage due to natural disaster, accident or human cause.
2. Damage as a result of violating the conditions recommended in the user manual.
3. Damage due to improper installation.
4. Damage due to use of uncertified components.
5. Damage due to use exceeding the permitted parameters.
6. Product determined to be an unofficial Gigabyte product.
1-2 Feature Summary

**CPU**
- Socket 754 for AMD Athlon™ 64 processor (K8)
- 1600MH/z system bus
- Supports core frequencies in excess of 3000+ and faster

**Chipset**
- Northbridge: VIA K8M800
- Southbridge: VIA VT8237R / VT8237R+

**Memory**
- 2 DDR DIMM memory slots (supports up to 2GB memory)
- Supports DDR 400(Note 1)/333/266/200 DIMM
- Supports 2.5V DDR DIMM

**Slots**
- 1 AGP slot
- 3 PCI slots

**IDE Connections**
- 2 IDE connection (UDMA 33/ATA 66/ATA 100/ATA 133), allows connection of 4 IDE devices

**FDD Connections**
- 1 FDD connection, allows connection of 2 FDD devices

**Onboard SATA**
- 2 Serial ATA connections (Note 2)

**Peripherals**
- 1 parallel port supporting Normal/EPP/ECP mode
- 1 serial port (COMA), 1 VGA port, onboard COMB connection
- 8 USB 2.0/1.1 ports (rear x 4, front x 4 via cable)
- 1 front audio connector
- 1 IR connector
- 1 PS/2 keyboard port
- 1 PS/2 mouse port

**On-Board VGA**
- Build in VIA K8M800 Chipset

**Onboard LAN**
- Onboard VIA 6103L chip (10/100 Mbit)
- 1 RJ 45 port

**Onboard Audio**
- Realtek ALC655 CODEC
- Supports Line In ; Line Out ; MIC In
- Supports 2 / 4 / 6 channel audio
- SPDIF In/Out connection
- CD In connection

**I/O Control**
- IT8705

(Note 1) Because of CPU limitations, if you want to install DDR400 memory modules in your system, please install either one double-sided or two single-sided DDR400 memory modules. The DDR400 speed will drop down to DDR333 if you install two double-sided DDR400 memory modules.

(Note 2) It is recommended to use SATA (1.5Gb/s) hard disks.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Board SATA RAID</td>
<td>• Built in VIA VT8237R / VT8237R+</td>
</tr>
<tr>
<td></td>
<td>• Supports Disk striping (RAID0) or DISK Mirroring (RAID1)</td>
</tr>
<tr>
<td></td>
<td>• Supports UDMA up to 150 MB/sec</td>
</tr>
<tr>
<td></td>
<td>• Up to 2 SATA Device</td>
</tr>
<tr>
<td>Hardware Monitor</td>
<td>• System voltage detection</td>
</tr>
<tr>
<td></td>
<td>• CPU temperature detection</td>
</tr>
<tr>
<td></td>
<td>• CPU / System fan speed detection</td>
</tr>
<tr>
<td></td>
<td>• CPU fan failure warning</td>
</tr>
<tr>
<td>BIOS</td>
<td>• Use of licensed AWARD BIOS</td>
</tr>
<tr>
<td></td>
<td>• Supports Q-Flash</td>
</tr>
<tr>
<td>Additional Features</td>
<td>• Supports @BIOS</td>
</tr>
<tr>
<td></td>
<td>• Supports EasyTune <em>(Note 3)</em></td>
</tr>
<tr>
<td>Overclocking</td>
<td>• Over Clock (CPU) by BIOS</td>
</tr>
<tr>
<td></td>
<td>• Over Voltage (CPU/AGP) by BIOS</td>
</tr>
<tr>
<td>Form Factor</td>
<td>• Micro ATX form factor; 22.0cm x 24.4cm</td>
</tr>
</tbody>
</table>

*(Note 3)* EasyTune functions may vary depending on different motherboards.
1-3 Installation of the CPU and Heatsink

Before installing the CPU, please comply with the following conditions:

1. Please make sure that the motherboard supports the CPU.
2. Please take note of the one indented corner of the CPU. If you install the CPU in the wrong direction, the CPU will not insert properly. If this occurs, please change the insert direction of the CPU.
3. Please add an even layer of heat sink paste between the CPU and heatsink.
4. Please make sure the heatsink is installed on the CPU prior to system use, otherwise overheating and permanent damage of the CPU may occur.
5. Please set the CPU host frequency in accordance with the processor specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the required standards for the peripherals. If you wish to set the frequency beyond the proper specifications, please do so according to your hardware specifications including the CPU, graphics card, memory, hard drive, etc.

1-3-1 Installation of the CPU

Check the processor pins to see that none are bent. Move the socket lever to the unlocked position as shown in Figure 1. (90° to the plane of the motherboard) prior to inserting the processor. The pin 1 location is designated on the processor by a copper triangle that matches up to a triangle on the socket as shown in Figure 2. Align the processor to the socket and gently lower it into place. Do not force the processor into the socket.

Please use extra care when installing the CPU. The CPU will not fit if positioned incorrectly. Rather than applying force, please change the positioning of the CPU.
1-3-2 Installation of the Heatsink

Fig.1
Before installing the heat sink, please first add an even layer of heat sink paste on the surface of the CPU. Install all the heat sink components (Please refer to the heat sink manual for detailed installation instructions).

Fig.2
Please connect the heat sink power connector to the CPU_FAN connector located on the motherboard so that the heat sink can properly function to prevent CPU overheating.

NOTE
The heat sink may adhere to the CPU as a result of hardening of the heat sink paste. To prevent such an occurrence, it is suggested that either thermal tape rather than heat sink paste be used for heat dissipation or using extreme care when removing the heat sink.
1-4 Installation of Memory

Before installing the memory modules, please comply with the following conditions:

1. Please make sure that the memory used is supported by the motherboard. It is recommended that memory of similar capacity, specifications and brand be used.
2. Before installing or removing memory modules, please make sure that the computer power is switched off to prevent hardware damage.
3. Memory modules have a foolproof insertion design. A memory module can be installed in only one direction. If you are unable to insert the module, please switch the direction.

The motherboard supports DDR memory modules, whereby BIOS will automatically detect memory capacity and specifications. Memory modules are designed so that they can be inserted only in one direction. The memory capacity used can differ with each slot.

Fig.1
The DIMM socket has a notch, so the DIMM memory module can only fit in one direction. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.

Fig.2
Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module. Reverse the installation steps when you wish to remove the DIMM module.
1-5 Installation of Expansion Cards

You can install your expansion card by following the steps outlined below:

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, screws and slot bracket from the computer.
3. Press the expansion card firmly into expansion slot in motherboard.
4. Be sure the metal contacts on the card are indeed seated in the slot.
5. Replace the screw to secure the slot bracket of the expansion card.
6. Replace your computer's chassis cover.
7. Power on the computer, if necessary, setup BIOS utility of expansion card from BIOS.
8. Install related driver from the operating system.

Installing a AGP expansion card:

Please carefully pull out the small white-drawable bar at the end of the AGP slot when you try to install/uninstall the VGA card. Please align the VGA card to the onboard AGP slot and press firmly down on the slot. Make sure your VGA card is locked by the small white-drawable bar.
1-6  I/O Back Panel Introduction

- **PS/2 Keyboard and PS/2 Mouse Connector**
  To install a PS/2 port keyboard and mouse, plug the mouse to the upper port (green) and the keyboard to the lower port (purple).

- **USB port**
  Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker...etc. have a standard USB interface. Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

- **Parallel Port**
  The parallel port allows connection of a printer, scanner and other peripheral devices.

- **COM A (Serial Port)**
  Connects to serial-based mouse or data processing devices.

- **VGA Port**
  Monitor can be connected to VGA port.

- **LAN Port**
  The provided Internet connection is fast Ethernet, providing data transfer speeds of 10/100Mbps.

- **Line In**
  Devices like CD-ROM, walkman etc. can be connected to Line In jack.

- **Line Out (Front Speaker Out)**
  Connect the stereo speakers, earphone or front surround channels to this connector.

- **MIC In**
  Microphone can be connected to MIC In jack.

**NOTE** You can use audio software to configure 2-/4-/6-channel audio functioning.
1-7 Connectors Introduction

1) ATX_12V  
2) ATX (Power Connector)  
3) CPU_FAN  
4) SYS_FAN  
5) FDD  
6) IDE1 / IDE2  
7) SATA0 / SATA1  
8) F_PANEL  
9) PWR_LED  
10) F_AUDIO  
11) CD_IN  
12) SPDIF.ActionBar  
13) F_USB1 / F_USB2  
14) IR  
15) COMB  
16) CLR_CMOS  
17) BAT
1/2) **ATX_12V / ATX (Power Connector)**

With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, please make sure that all components and devices are properly installed. Align the power connector with its proper location on the motherboard and connect tightly.

The ATX_12V power connector mainly supplies power to the CPU. If the ATX_12V power connector is not connected, the system will not start.

**Caution!**

Please use a power supply that is able to handle the system voltage requirements. It is recommended that a power supply that can withstand high power consumption be used (300W or greater). If a power supply is used that does not provide the required power, the result can lead to an unstable system or a system that is unable to start.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>+12V</td>
</tr>
<tr>
<td>4</td>
<td>+12V</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.3V</td>
</tr>
<tr>
<td>2</td>
<td>3.3V</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
</tr>
<tr>
<td>4</td>
<td>VCC</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
</tr>
<tr>
<td>6</td>
<td>VCC</td>
</tr>
<tr>
<td>7</td>
<td>GND</td>
</tr>
<tr>
<td>8</td>
<td>Power Good</td>
</tr>
<tr>
<td>9</td>
<td>5V SB (stand by +5V)</td>
</tr>
<tr>
<td>10</td>
<td>+12V</td>
</tr>
<tr>
<td>11</td>
<td>3.3V</td>
</tr>
<tr>
<td>12</td>
<td>-12V</td>
</tr>
<tr>
<td>13</td>
<td>GND</td>
</tr>
<tr>
<td>14</td>
<td>PS_ON(soft on/off)</td>
</tr>
<tr>
<td>15</td>
<td>GND</td>
</tr>
<tr>
<td>16</td>
<td>GND</td>
</tr>
<tr>
<td>17</td>
<td>GND</td>
</tr>
<tr>
<td>18</td>
<td>-5V</td>
</tr>
<tr>
<td>19</td>
<td>+5V</td>
</tr>
<tr>
<td>20</td>
<td>+5V</td>
</tr>
</tbody>
</table>
3/4) CPU_FAN / SYS_FAN (Cooler Fan Power Connector)

The cooler fan power connector supplies a +12V power voltage via a 3-pin power connector and possesses a foolproof connection design.

Most coolers are designed with color-coded power connector wires. A red power connector wire indicates a positive connection and requires a +12V power voltage. The black connector wire is the ground wire (GND).

Please remember to connect the power to the cooler to prevent system overheating and failure.

Caution!
Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
</tr>
<tr>
<td>2</td>
<td>+12V</td>
</tr>
<tr>
<td>3</td>
<td>Sense</td>
</tr>
</tbody>
</table>

5) FDD (FDD Connector)

The FDD connector is used to connect the FDD cable while the other end of the cable connects to the FDD drive. The types of FDD drives supported are: 360KB, 720KB, 1.2MB, 1.44MB and 2.88MB.

Before attaching the FDD cable, please take note of the foolproof groove in the FDD connector.
6) IDE1 / IDE2 (IDE Connector)
An IDE device connects to the computer via an IDE connector. One IDE connector can connect to one IDE cable, and the single IDE cable can then connect to two IDE devices (hard drive or optical drive). If you wish to connect two IDE devices, please set the jumper on one IDE device as Master and the other as Slave (for information on settings, please refer to the instructions located on the IDE device). Before attaching the IDE cable, please take note of the foolproof groove in the IDE connector.

7) SATA0 / SATA1 (Serial ATA Connector)
Serial ATA can provide up to 150MB/s transfer rate. Please refer to the BIOS setting for the Serial ATA and install the proper driver in order to work properly.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
</tr>
<tr>
<td>2</td>
<td>TXP</td>
</tr>
<tr>
<td>3</td>
<td>TXN</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td>5</td>
<td>RXN</td>
</tr>
<tr>
<td>6</td>
<td>RXP</td>
</tr>
<tr>
<td>7</td>
<td>GND</td>
</tr>
</tbody>
</table>
8) **F_PANEL (Front Panel Jumper)**

Please connect the power LED, PC speaker, reset switch and power switch etc of your chassis front panel to the F_PANEL connector according to the pin assignment below.

| HD (IDE Hard Disk Active LED) | Pin 1: LED anode(+) 
|------------------------------|-------------------------
|                              | Pin 2: LED cathode(-)    |
| SPEAK (Speaker Connector)    | Pin 1: Power            
|                              | Pin 2- Pin 3: NC        
|                              | Pin 4: Data(-)          |
| RES (Reset Switch)           | Open: Normal            
|                              | Close: Reset Hardware System |
| PW (Power Switch)            | Open: Normal            
|                              | Close: Power On/Off     |
| MSG(Message LED/Power/Sleep LED) | Pin 1: LED anode(+)  
|                              | Pin 2: LED cathode(-)    |
| NC                           | NC                      |
9) **PWR_LED**

The PWR_LED connector is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MPD+</td>
</tr>
<tr>
<td>2</td>
<td>MPD-</td>
</tr>
<tr>
<td>3</td>
<td>MPD-</td>
</tr>
</tbody>
</table>

10) **F_AUDIO (Front Audio Panel Connector)**

If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assignments for the cable are the same as the pin assignments for the front audio header. To find out if the chassis you are buying support front audio connector, please contact your dealer. Please note, you can have the alternative of using front audio connector or of using rear audio connector to play sound.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MIC</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>MIC_BIAS</td>
</tr>
<tr>
<td>4</td>
<td>POWER</td>
</tr>
<tr>
<td>5</td>
<td>FrontAudio(R)</td>
</tr>
<tr>
<td>6</td>
<td>Rear Audio (R)/ Return R</td>
</tr>
<tr>
<td>7</td>
<td>NC</td>
</tr>
<tr>
<td>8</td>
<td>No Pin</td>
</tr>
<tr>
<td>9</td>
<td>FrontAudio (L)</td>
</tr>
<tr>
<td>10</td>
<td>Rear Audio (L)/ Return L</td>
</tr>
</tbody>
</table>
11) CD_IN (CD In Connector)

Connect CD-ROM or DVD-ROM audio out to the connector.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CD-L</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
</tr>
<tr>
<td>4</td>
<td>CD-R</td>
</tr>
</tbody>
</table>

12) SPDIF_IO (SPDIF In/Out)

The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Use SPDIF IN feature only when your device has digital output function. Be careful with the polarity of the SPDIF_IO connector. Check the pin assignment carefully while you connect the SPDIF cable. Incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional SPDIF cable, please contact your local dealer.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power</td>
</tr>
<tr>
<td>2</td>
<td>No Pin</td>
</tr>
<tr>
<td>3</td>
<td>SPDIF</td>
</tr>
<tr>
<td>4</td>
<td>SPDIFI</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
</tr>
</tbody>
</table>
13) F_USB1 / F_USB2 (Front USB Connector)
Be careful with the polarity of the front USB connector. Check the pin assignment carefully while you connect the front USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional front USB cable, please contact your local dealer.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power</td>
</tr>
<tr>
<td>2</td>
<td>Power</td>
</tr>
<tr>
<td>3</td>
<td>USB DX-</td>
</tr>
<tr>
<td>4</td>
<td>USB Dy-</td>
</tr>
<tr>
<td>5</td>
<td>USB DX+</td>
</tr>
<tr>
<td>6</td>
<td>USB Dy+</td>
</tr>
<tr>
<td>7</td>
<td>GND</td>
</tr>
<tr>
<td>8</td>
<td>GND</td>
</tr>
<tr>
<td>9</td>
<td>No Pin</td>
</tr>
<tr>
<td>10</td>
<td>NC</td>
</tr>
</tbody>
</table>

14) IR
Be careful with the polarity of the IR connector while you connect the IR. Please contact your nearest dealer for optional IR device.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power</td>
</tr>
<tr>
<td>2</td>
<td>No Pin</td>
</tr>
<tr>
<td>3</td>
<td>IR RX</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td>5</td>
<td>IR TX</td>
</tr>
</tbody>
</table>
15) COMB (COMB Connector)

Be careful with the polarity of the COMB connector. Check the pin assignments while you connect the COMB cable. Please contact your nearest dealer for optional COMB cable.

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NDCDB-</td>
</tr>
<tr>
<td>2</td>
<td>NSINB</td>
</tr>
<tr>
<td>3</td>
<td>NSOUTB</td>
</tr>
<tr>
<td>4</td>
<td>NDTRB-</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
</tr>
<tr>
<td>6</td>
<td>NDSRB-</td>
</tr>
<tr>
<td>7</td>
<td>NRTSB-</td>
</tr>
<tr>
<td>8</td>
<td>NCTSB-</td>
</tr>
<tr>
<td>9</td>
<td>NRIB-</td>
</tr>
<tr>
<td>10</td>
<td>No Pin</td>
</tr>
</tbody>
</table>

16) CLR_CMOS (Clear CMOS)

You may clear the CMOS data to its default values by this jumper. To clear CMOS, temporarily short 1-2 pin. Default doesn't include the "Shunter" to prevent from improper use this jumper.
17) BAT (Battery)

- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...
1. Turn off the computer and unplug the power cord.
2. Gently take out the battery and put it aside for about one minute.
   (Or you can use a metal object to connect the positive and negative pins in the battery holder to make them short for five seconds.)
3. Re-install the battery.
4. Plug the power cord in and turn on the computer.
Chapter 2 BIOS Setup

BIOS (Basic Input and Output System) includes a CMOS SETUP utility which allows user to configure required settings or to activate certain system features.

The CMOS SETUP saves the configuration in the CMOS SRAM of the motherboard.

When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS SRAM.

When the power is turned on, pushing the <Del> button during the BIOS POST (Power-On Self Test) will take you to the CMOS SETUP screen. You can enter the BIOS setup screen by pressing "Ctrl + F1".

When setting up BIOS for the first time, it is recommended that you save the current BIOS to a disk in the event that BIOS needs to be reset to its original settings. If you wish to upgrade to a new BIOS, either GIGABYTE's Q-Flash or @BIOS utility can be used.

Q-Flash allows the user to quickly and easily update or backup BIOS without entering the operating system. @BIOS is a Windows-based utility that does not require users to boot to DOS before upgrading BIOS but directly download and update BIOS from the Internet.

CONTROL KEYS

<↑> <↓> <←> <→> Move to select item
<br><Enter> Select Item
<br><Esc> Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<br><Page Up> Increase the numeric value or make changes
<br><Page Down> Decrease the numeric value or make changes
<br><F1> General help, only for Status Page Setup Menu and Option Page Setup Menu
<br><F2> Item Help
<br><F5> Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<br><F6> Load the fail-safe default CMOS value from BIOS default table
<br><F7> Load the Optimized Defaults
<br><F8> Q-Flash utility
<br><F9> System Information
<br><F10> Save all the CMOS changes, only for Main Menu

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press <F1> to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.
Once you enter Award BIOS CMOS Setup Utility, the Main Menu (as figure below) will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

- **Standard CMOS Features**
  This setup page includes all the items in standard compatible BIOS.

- **Advanced BIOS Features**
  This setup page includes all the items of Award special enhanced features.

- **Integrated Peripherals**
  This setup page includes all onboard peripherals.

- **Power Management Setup**
  This setup page includes all the items of Green function features.

- **PnP/PCI Configuration**
  This setup page includes all the configurations of PCI & PnP ISA resources.

- **PC Health Status**
  This setup page is the System auto detect Temperature, voltage, fan, speed.

- **Frequency/Voltage Control**
  This setup page is control CPU’s clock and frequency ratio.

- **Load Fail-Safe Defaults**
  Fail-Safe Defaults indicates the value of the system parameters which the system would be in safe configuration.

If you can't find the setting you want, please press "Ctrl+F1" to search the advanced option hidden.
- Load Optimized Defaults
  Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.

- Set Supervisor Password
  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

- Set User Password
  Change, set, or disable password. It allows you to limit access to the system.

- Save & Exit Setup
  Save CMOS value settings to CMOS and exit setup.

- Exit Without Saving
  Abandon all CMOS value changes and exit setup.
2-1 Standard CMOS Features

Date
The date format is <week>, <month>, <day>, <year>.
- **Week**: The week, from Sun to Sat, determined by the BIOS and is display only.
- **Month**: The month, Jan. Through Dec.
- **Day**: The day, from 1 to 31 (or the maximum allowed in the month)
- **Year**: The year, from 1999 through 2098

Time
The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

IDE Channel 0/1 Master, Slave
- **IDE HDD Auto-Detection**: Press "Enter" to select this option for automatic device detection.
- **IDE Device Setup**: You can use one of three methods:
  - **Auto**: Allows BIOS to automatically detect IDE devices during POST.(default)
  - **None**: Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.
  - **Manual**: User can manually input the correct settings
- **Access Mode**: Use this to set the access mode for the hard drive. The four options are: CHS/LBA/Large/Auto(default:Auto)

IDE Channel 2/3 Master
- **IDE HDD Auto-Detection**: Press "Enter" to select this option for automatic device detection.
- **Extended IDE Drive SATA devices setup**: You can use one of two methods:
  - **Auto**: Allows BIOS to automatically detect SATA IDE devices during POST.
    (Default value)
  - **None**: Select this if no SATA IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.
- **Access Mode**: Use this to set the access mode for the hard drive. The two options are: Large/Auto(default:Auto)
Capacity

Capacity of currently installed hard disk.

Hard drive information should be labeled on the outside drive casing. Enter the appropriate option based on this information.

- Cylinder
- Head
- Precomp
- Landing Zone
- Sector

Drive A / Drive B

The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

- None
- 360K, 5.25”
- 1.2M, 5.25”
- 720K, 3.5”
- 1.44M, 3.5”
- 2.88M, 3.5”

Floppy 3 Mode Support (for Japan Area)

- Disabled
- Drive A
- Drive B
- Both

Halt on

The category determines whether the computer will stop if an error is detected during power up.

- No Errors
- All Errors
- All, But Keyboard
- All, But Diskette
- All, But Disk/Key

Memory

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

Extended Memory

The BIOS determines how much extended memory is present during the POST.

This is the amount of memory located above 1 MB in the CPU's memory address map.

Total Memory

This item displays the memory size that used.
2-2 Advanced BIOS Features

---

**Hard Disk Boot Priority**
Select boot sequence for onboard(or add-on cards) SCSI, RAID, etc.

Use <↑> or <↓> to select a device, then press <↑> to move it up, or <↓> to move it down the list. Press <ESC> to exit this menu.

**First / Second / Third Boot Device**
- Floppy: Select your boot device priority by Floppy.
- LS120: Select your boot device priority by LS120.
- Hard Disk: Select your boot device priority by Hard Disk.
- CDROM: Select your boot device priority by CDROM.
- ZIP: Select your boot device priority by ZIP.
- USB-FDD: Select your boot device priority by USB-FDD.
- USB-ZIP: Select your boot device priority by USB-ZIP.
- USB-CDROM: Select your boot device priority by USB-CDROM.
- USB-HDD: Select your boot device priority by USB-HDD.
- Legacy LAN: Select your boot device priority by Legacy LAN.
- Disabled: Disable this function.

**Password Check**
- System: The system can not boot and can not access to Setup page will be denied if the correct password is not entered at the prompt.
- Setup: The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt. (Default value)
## 2-3 Integrated Peripherals

<table>
<thead>
<tr>
<th>Integrated Peripherals</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDE DMA transfer access</td>
</tr>
<tr>
<td>On-Chip IDE Channel 0</td>
</tr>
<tr>
<td>On-Chip IDE Channel 1</td>
</tr>
<tr>
<td>On-Chip Serial ATA</td>
</tr>
<tr>
<td>SATA Mode</td>
</tr>
<tr>
<td>AC97 Audio</td>
</tr>
<tr>
<td>VIA Onboard LAN</td>
</tr>
<tr>
<td>USB 1.1 Controller</td>
</tr>
<tr>
<td>USB 2.0 Controller</td>
</tr>
<tr>
<td>USB Keyboard Support</td>
</tr>
<tr>
<td>USB Mouse Support</td>
</tr>
<tr>
<td>On-Chip LAN Boot ROM</td>
</tr>
<tr>
<td>Onboard IDE Controller</td>
</tr>
<tr>
<td>Onboard Serial Port 1</td>
</tr>
<tr>
<td>Onboard Serial Port 2</td>
</tr>
<tr>
<td>UART Mode Select</td>
</tr>
<tr>
<td>x UR2 Duplex Mode</td>
</tr>
<tr>
<td>Onboard Parallel Port</td>
</tr>
<tr>
<td>Parallel Port Mode</td>
</tr>
</tbody>
</table>

**IDE DMA transfer access**
- **Enabled**: Enable IDE DMA transfer access. (Default value)
- **Disabled**: Disable this function.

**On-Chip IDE Channel0**
- **Enabled**: Enable onboard 1st channel IDE port. (Default value)
- **Disabled**: Disable onboard 1st channel IDE port.

**On-Chip IDE Channel1**
- **Enabled**: Enable onboard 2nd channel IDE port. (Default value)
- **Disabled**: Disable onboard 2nd channel IDE port.
OnChip Serial ATA
- Enabled: Enable VT8237R / VT8237R+ Serial ATA supported. (Default value)
- Disabled: Disable VT8237R / VT8237R+ Serial ATA supported.

SATA Mode
- RAID: Set onboard SATA mode to RAID. (Default value)
- IDE: Set onboard SATA mode to IDE.

AC97 Audio
- Auto: Enable onboard AC'97 audio function. (Default value)
- Disabled: Disable this function.

VIA Onboard LAN
- Enabled: Enable VIA onboard LAN function. (Default value)
- Disabled: Disable this function.

USB 1.1 Controller
- Disabled: Disable USB 1.1 controller.
- Enabled: Enable USB 1.1 controller. (Default value)

USB 2.0 Controller
- Disabled: Disable USB 2.0 controller.
- Enabled: Enable USB 2.0 controller. (Default value)

USB Keyboard Support
- Enabled: Enable USB keyboard support.
- Disabled: Disable USB keyboard support. (Default value)

USB Mouse Support
- Enabled: Enable USB mouse support.
- Disabled: Disable USB mouse support. (Default value)

On-Chip LAN Boot ROM
This function decide whether to invoke the boot ROM of the onboard LAN chip.
- PXE: Set On-Chip LAN Boot ROM to PXE.
- RPL: Set On-Chip LAN Boot ROM to RPL.
- Disabled: Disable this function. (Default value)

Onboard FDC Controller
- Enabled: Enable onboard FDC Controller. (Default value)
- Disabled: Disable onboard FDC Controller.

Onboard Serial Port 1
- Auto: BIOS will automatically setup the Serial port 1 address.
- 3F8/IRQ4: Enable onboard Serial port 1 and address is 3F8/IRQ4. (Default value)
- 2F8/IRQ3: Enable onboard Serial port 1 and address is 2F8/IRQ3.
- 3E8/IRQ4: Enable onboard Serial port 1 and address is 3E8/IRQ4.
- 2E8/IRQ3: Enable onboard Serial port 1 and address is 2E8/IRQ3.
- Disabled: Disable onboard Serial port 1.
Onboard Serial Port 2
- **Auto** BIOS will automatically set up the Serial port 2 address.
- **3F8/IRQ4** Enable onboard Serial port 2 and address is 3F8/IRQ4.
- **2F8/IRQ3** Enable onboard Serial port 2 and address is 2F8/IRQ3. (Default value)
- **3E8/IRQ4** Enable onboard Serial port 2 and address is 3E8/IRQ4.
- **2E8/IRQ3** Enable onboard Serial port 2 and address is 2E8/IRQ3.
- **Disabled** Disable onboard Serial port 2.

UART Mode Select
This item allows you to determine which Infra Red(IR) function of Onboard I/O chip.
- **Normal** Set onboard I/O chip UART to Normal mode. (Default value)
- **IrDA** Set onboard I/O chip UART to IrDA mode.
- **ASKIR** Set onboard I/O chip UART to ASKIR mode.

UR2 Duplex Mode
This feature allows you to select IR mode.
This function is available only when UART Mode Select is not set to Normal.
- **Half** IR Function Duplex Half. (Default value)
- **Full** IR Function Duplex Full.

Onboard Parallel Port
- **Disabled** Disable onboard LPT port.
- **378/IRQ7** Enable onboard LPT port and address is 378/IRQ7. (Default value)
- **278/IRQ5** Enable onboard LPT port and address is 278/IRQ5.
- **3BC/IRQ7** Enable onboard LPT port and address is 3BC/IRQ7.

Parallel Port Mode
- **SPP** Using Parallel port as Standard Parallel Port. (Default value)
- **EPP** Using Parallel port as Enhanced Parallel Port.
- **ECP** Using Parallel port as Extended Capabilities Port.
- **ECP+EPP** Using Parallel port as ECP and EPP mode.

Midi Port Address
- **300** Set Midi Port Address to 300.
- **330** Set Midi Port Address to 330
- **Disabled** Disable this function. (Default value)

Midi Port IRQ
- **5** Set Midi Port IRQ to 5.
- **10** Set Midi Port IRQ to 10. (Default value)
## 2-4 Power Management Setup

<table>
<thead>
<tr>
<th>CMOS Setup Utility-Copyright (C) 1984-2005 Award Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Management Setup</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Help</th>
<th>Menu Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>[S1(POS)] Set suspend type to S1/POS(Power On Suspend). (Default value)</td>
<td></td>
</tr>
<tr>
<td>[S3] Set suspend type to S3/STR(Suspend To RAM)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Help</th>
<th>Fail-Safe Defaults</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB Device Wake-Up From S3 Disabled Disable USB Device Wake-Up from S3. (Default value)</td>
<td></td>
</tr>
<tr>
<td>Enabled Enable USB Device Wake-Up from S3.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Help</th>
<th>Optimized Defaults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft-Off by PWRBTN Instant-Off Press power button then Power off instantly. (Default value)</td>
<td></td>
</tr>
<tr>
<td>Delay 4 Sec. Press power button 4 sec. to Power off. Enter suspend if button is pressed less than 4 sec.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Help</th>
<th>General Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC BACK Function Memory When AC-power back to the system, the system will be back to the last state before AC-power is lost.</td>
<td></td>
</tr>
<tr>
<td>Soft-Off When AC-power back to the system, the system will be in &quot;Off&quot; state. (Default value)</td>
<td></td>
</tr>
<tr>
<td>Full-On When AC-power back to the system, the system always in &quot;On&quot; state.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Help</th>
<th>Previous Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyboard Power On Password Enter from 1 to 8 characters to set the Keyboard Power On Password.</td>
<td></td>
</tr>
<tr>
<td>Disabled Disabled this function. (Default value)</td>
<td></td>
</tr>
<tr>
<td>Keyboard 98 If your keyboard have &quot;POWER Key&quot; button, you can press the key to power on the system.</td>
<td></td>
</tr>
</tbody>
</table>

### ACPI Suspend Type
- **S1(POS)**: Set ACPI suspend type to S1/POS(Power On Suspend). (Default value)
- **S3(STR)**: Set ACPI suspend type to S3/STR(Suspend To RAM).

### USB Device Wake-Up From S3
- **Disabled**: Disable USB Device Wake-Up from S3. (Default value)
- **Enabled**: Enable USB Device Wake-Up from S3.

### Soft-Off by PWRBTN
- **Instant-Off**: Press power button then Power off instantly. (Default value)
- **Delay 4 Sec.**: Press power button 4 sec. to Power off. Enter suspend if button is pressed less than 4 sec.

### AC BACK Function
- **Memory**: When AC-power back to the system, the system will be back to the last state before AC-power is lost.
- **Soft-Off**: When AC-power back to the system, the system will be in "Off" state. (Default value)
- **Full-On**: When AC-power back to the system, the system always in "On" state.

### Keyboard Power On
- **Password**: Enter from 1 to 8 characters to set the Keyboard Power On Password.
- **Disabled**: Disabled this function. (Default value)
- **Keyboard 98**: If your keyboard have "POWER Key" button, you can press the key to power on the system.
Mouse Power On
- Disabled: Disabled this function. (Default value)
- Enabled: Double click on PS/2 mouse left button to power on the system.

PME Event Wake Up
This feature requires an ATX power supply that provides at least 1A on the 5VSB lead.
- Disabled: Disable this function.
- Enabled: Enable PME as wake up event. (Default value)

Modem Ring Resume
An incoming call via modem can awake the system from any suspend state.
- Disabled: Disable Modem Ring Resume function.
- Enabled: Enable Modem Ring Resume function. (Default value)

Resume by Alarm
You can set "Resume by Alarm" item to enabled and key in Date/Time to power on system.
- Disabled: Disable this function. (Default value)
- Enabled: Enable alarm function to POWER ON system.
  If Resume by Alarm is Enabled.
  - Date (of Month) Alarm: Everyday, 1~31
  - Time (hh: mm: ss) Alarm: (0~23) : (0~59) : (0~59)
2-5 PnP/PCI Configurations

<table>
<thead>
<tr>
<th>Item Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Help</td>
</tr>
</tbody>
</table>

### PCI 1 IRQ Assignment
- **Auto**: Auto assign IRQ to PCI 1. (Default value)
- **3,4,5,7,9,10,11,12,14,15**: Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1.

### PCI 2 IRQ Assignment
- **Auto**: Auto assign IRQ to PCI 2. (Default value)
- **3,4,5,7,9,10,11,12,14,15**: Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 2.

### PCI 3 IRQ Assignment
- **Auto**: Auto assign IRQ to PCI 3. (Default value)
- **3,4,5,7,9,10,11,12,14,15**: Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 3.
2-6  PC Health Status

Current Voltage(V) Vcore / DDR25V / +3.3V / +12V
Detect system's voltage status automatically.

Current CPU Temperature
Detect CPU temperature automatically.

Current CPU/SYSTEM FAN Speed (RPM)
Detect CPU/SYSTEM fan speed status automatically.

CPU FAN Fail Warning
- Disabled: Disable CPU fan fail warning function. (Default value)
- Enabled: Enable CPU fan fail warning function.

SYSTEM FAN Fail Warning
- Disabled: Disable SYSTEM fan fail warning function. (Default value)
- Enabled: Enable SYSTEM fan fail warning function.
# 2-7 Frequency / Voltage Control

Incorrect using these features may cause your system broken. For power end-user use only.

### K8 CPU Clock Ratio
- **Default**: Set K8 CPU Clock Ratio to CPU factory default. (Default value)
- **x4 800Mhz ~ x10 2000Mhz**: Set K8 CPU Clock Ratio from x4 800Mhz to x10 2000Mhz.

### CPU Host Clock Control
- **Disabled**: Disable CPU Host Clock Control. (Default value)
- **Enabled**: Enable CPU Host Clock Control.

Note: Please note that if your system is overclocked and cannot restart, please wait 20secs. for automatic system restart or clear the CMOS setup data and perform a safe restart.

### CPU Host Frequency (Mhz)
- **200Mhz ~ 455Mhz**: Set CPU Host Frequency from 200Mhz to 455Mhz.

### PCI /AGP Frequency (Mhz)
- The values depend on CPU Host Frequency (Mhz).

### CPU OverVoltage Control
- **Auto**: BIOS will automatically detect CPU voltage. (Default value)
- **+5%**: Set CPU OverVoltage Control to +5%.
- **+7.5%**: Set CPU OverVoltage Control to +7.5%.
- **+10%**: Set CPU OverVoltage Control to +10%.

Incorrect using it may cause your system broken. For power End-User use only!

### AGP OverVoltage Control
- **Auto**: BIOS will automatically detect AGP voltage. (Default value)
- **+0.1V**: Set AGP OverVoltage Control to +0.1V.
- **+0.2V**: Set AGP OverVoltage Control to +0.2V.

Increase AGP voltage may get stable for Over_Clock. But it may damage to AGP Card when enable this feature.
2-8  Load Fail-Safe Defaults

Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

2-9  Load Optimized Defaults

Selecting this field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.
2-10 Set Supervisor/User Password

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password, up to eight characters, and press <Enter>. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

The BIOS Setup program allows you to specify two separate passwords: SUPERVISOR PASSWORD and a USER PASSWORD. When disabled, anyone may access all BIOS Setup program function. When enabled, the Supervisor password is required for entering the BIOS Setup program and having full configuration fields, the User password is required to access only basic items.

If you select "System" at "Password Check" in Advance BIOS Features Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu.
If you select "Setup" at "Password Check" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password, up to eight characters, and press <Enter>. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

The BIOS Setup program allows you to specify two separate passwords: SUPERVISOR PASSWORD and a USER PASSWORD. When disabled, anyone may access all BIOS Setup program function. When enabled, the Supervisor password is required for entering the BIOS Setup program and having full configuration fields, the User password is required to access only basic items.

If you select "System" at "Password Check" in Advance BIOS Features Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu.
If you select "Setup" at "Password Check" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.
2-11  Save & Exit Setup

Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS. 
Type "N" will return to Setup Utility.

2-12  Exit Without Saving

Type "Y" will quit the Setup Utility without saving to RTC CMOS. 
Type "N" will return to Setup Utility.
Chapter 3 Drivers Installation

Pictures below are shown in Windows XP.

Insert the driver CD-title that came with your motherboard into your CD-ROM drive, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the Setup.exe.

3-1 Install Chipset Drivers

After insert the driver CD, "Xpress Install" will scan automatically the system and then list all the drivers that recommended to install. The "Xpress Install" uses the"Click and Go" technology to install the drivers automatically. Just select the drivers you want then click the "GO" button. The "Xpress Install" will execute the installation for you automatically.

Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.
System will reboot automatically after install the drivers, afterward you can install others application.

For USB2.0 driver support under Windows XP operating system, please use Windows Service Pack. After install Windows Service Pack, it will show a question mark "?" in "Universal Serial Bus controller" under "Device Manager". Please remove the question mark and restart the system (System will auto-detect the right USB2.0 driver).
3-2 Software Application

This page displays all the tools that Gigabyte developed and some free software. You can click an item to install it.

3-3 Software Information

This page lists the contents of software and drivers in this CD-title.
3-4  **Hardware Information**

This page lists all device you have for this motherboard.

![Image of Hardware Information]

3-5  **Contact Us**

Please see the last page for details.

![Image of Contact Us]
Chapter 4 Appendix

4-1 Unique Software Utilities

(Not all model support these Unique Software Utilities, please check your MB features.)

U-PLUS D.P.S. (Universal Plus Dual Power System)

The U-Plus Dual Power System (U-Plus DPS) is a revolutionary eight-phase power circuit built for ultimate system protection. Designed to withstand varying current levels and changes, the U-Plus D.P.S. provides an immensely durable and stable power circuit to the CPU for solid system stability. These characteristics make it the ideal companion with the latest LGA775 Intel® Pentium® 4 Processor as well as future Intel® processors. As well, 4 blue LED's are mounted on the U-Plus D.P.S. for intelligent indication of system loading.

M.I.T. (Motherboard Intelligent Tweaker)

Motherboard Intelligent Tweaker (M.I.T.) allows user to access and change BIOS feature settings with relative speed and ease. Through GIGABYTE M.I.T. feature the user is no longer required to switch into different modes within BIOS setup in order to change system settings such as the CPU system bus, memory timings or to enabled Gigabyte's unique C.I.A. 2 and M.I.B. 2 features. M.I.T.'s integration of all platform performance settings into a single mode now gives any user the ability to control and enhance their computer system to the desired level.

C.I.A.2 (CPU Intelligent Accelerator 2)

GIGABYTE CPU Intelligent Accelerator 2(C.I.A. 2) is designed to automatically adjust CPU computing power to maximize system performance. When enabled, the program detects the current CPU loading and automatically accelerates the CPU computing performance to allow for a faster and smoother execution of programs. When the function is disabled, the CPU is returned to its initial status.

M.I.B.2 (Memory Intelligent Booster 2)

Built on the original M.I.B., the new Memory Intelligent Booster 2 (M.I.B. 2) is designed especially to maximize memory performance and boost memory bandwidth up to 10%. With added branded memory module information, users are able to optimize memory performance by selecting from a recommended memory module list.

S.O.S. (System Overclock Saver)

System Overclock Saver (S.O.S.) is a unique feature that eliminates system boot-up errors resulting from system over-enhancement by the user. With GIGABYTE's proprietary S.O.S. feature, users no longer need to open up the PC chassis and short-circuit the "Clear CMOS" pins or the battery on the motherboard to reset the system back to factory default settings. Instead, S.O.S. automatically resets the overclocked system settings back to their factory defaults to provide a more user-friendly and reliable platform for users.

Download Center

Download Center allows users to quickly download and update their BIOS as well as the latest drivers for their system. Download Center automatically runs a system check of the user PC and provides the user with the current system information as well as displaying a detailed list of all new drivers with the option for download.

C.O.M. (Corporate Online Management)

A web-based system management tool that allows system hardware information such as CPU, memory, graphics card, etc. to be monitored and controlled via the Internet. C.O.M. allows corporate MIS engineers to easily maintain corporate computers such as providing the most up-to-date drivers and BIOS. (Do not use C.O.M. and @BIOS at the same time.)
4-1-1 EasyTune 5 Introduction

EasyTune 5 presents the most convenient Windows based system performance enhancement and manageability utility. Featuring several powerful yet easy to use tools such as 1) Overclocking for enhancing system performance, 2) C.I.A. and M.I.B. for special enhancement for CPU and Memory, 3) Smart-Fan control for managing fan speed control of both CPU cooling fan and North-Bridge Chipset cooling fan, 4) PC health for monitoring system status.\(^{(Note)}\)

User Interface Overview

<table>
<thead>
<tr>
<th>Button / Display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overclocking</td>
<td>Enters the Overclocking setting page</td>
</tr>
<tr>
<td>2. C.I.A./C.I.A.2 and M.I.B./M.I.B.2</td>
<td>Enters the C.I.A./2 and M.I.B./2 setting page</td>
</tr>
<tr>
<td>3. Smart-Fan</td>
<td>Enters the Smart-Fan setting page</td>
</tr>
<tr>
<td>4. PC Health</td>
<td>Enters the PC Health setting page</td>
</tr>
<tr>
<td>5. GO</td>
<td>Confirmation and Execution button</td>
</tr>
<tr>
<td>6. &quot;Easy Mode&quot; &amp; &quot;Advance Mode&quot;</td>
<td>Toggles between Easy and Advance Mode</td>
</tr>
<tr>
<td>7. Display screen</td>
<td>Display panel of CPU frequency</td>
</tr>
<tr>
<td>8. Function display LEDs</td>
<td>Shows the current functions status</td>
</tr>
<tr>
<td>9. GIGABYTE Logo</td>
<td>Log on to GIGABYTE website</td>
</tr>
<tr>
<td>10. Help button</td>
<td>Display EasyTune™ 5 Help file</td>
</tr>
<tr>
<td>11. Exit or Minimize button</td>
<td>Quit or Minimize EasyTune™ 5 software</td>
</tr>
</tbody>
</table>

\(^{(Note)}\) EasyTune 5 functions may vary depending on different motherboards.
4-1-2 Xpress Recovery Introduction

What is Xpress Recovery?
Xpress Recovery is a utility used to back up and restore an OS partition. If the hard drive is not working properly, the user can restore the drive to its original state.

1. Supports FAT16, FAT32, and NTFS formats
2. Must be connected to the IDE1 Master
3. Allows installation of only one OS
4. Must be used with an IDE hard disk supporting HPA
5. The first partition must be set as the boot partition. When the boot partition is backed up, please do not alter its size.
6. Xpress Recovery is recommended when using Ghost to return boot manager to NTFS format.

How to use the Xpress Recovery
1. Boot from CD-ROM (BMP Mode)
Enter the BIOS menu, select "Advanced BIOS Feature" and set to boot from CD-ROM. Insert the provided driver CD into your CD drive, then save and exit the BIOS menu. Once the computer has restarted, the phrase "Boot from CD:" will appear at the bottom left-hand corner of the screen. When "Boot from CD:" appears, press any key to enter Xpress Recovery. Once you have completed this step, subsequent access to Xpress Recovery can also function by pressing the F9 key during computer power on.
1. If you have already entered Xpress Recovery by booting from the CD-ROM, you can enter Xpress Recovery in the future by pressing the F9 key.
2. System storage capacity as well as drive reading/writing speed will affect backup speed.
3. It is recommended that Xpress Recovery be immediately installed after OS and all required driver and software installations are complete.
1. Execute Backup Utility:

- Press B to Backup your System or Esc to Exit
  The backup utility will automatically scan your system and back up data as a backup image in your hard drive.
  ! IMPORTANT
  Not all systems support access to Xpress Recovery by pressing the F9 key during computer power on. If this is the case, please use the boot from CD-ROM method to enter Xpress Recovery.

2. Execute Restore Utility:

- This program will recover your system to factory default.
  Press R to restore your system back to factory default or press Esc to exit
  Restores backup image to original state.

3. Remove Backup Image:

- Remove backup image. Are you sure? (Y/N)
  Remove the backup image.

4. Set Password:

- Please input a 4-16 character long password (a-z or 0-9) or press Esc to exit
  You can set a password to enter Xpress Recovery to protect your hard disk data. Once this is done, password input will be required to enter Xpress Recovery during the next as well as subsequent system restarts. If you wish to remove the need for password entry, please select "Set Password" and under "New Password/Confirm Password", make sure there is no entry and then press "Enter" to remove password requirement.

5. Exit and Restart:

- Exit and restart your computer.
4-1-3 Flash BIOS Method Introduction

Method 1 : Q-Flash™ Utility

Q-Flash™ is a BIOS flash utility embedded in Flash ROM. With this utility, users only have to stay in the BIOS menu when they want to update BIOS. Q-Flash™ allows users to flash BIOS without any utility in DOS or Windows. Using Q-Flash™ indicating no more fooling around with any complicated instructions and operating system since it is in the BIOS menu.

Please note that because updating BIOS has potential risk, please do it with caution!! We are sorry that Gigabyte Technology Co., Ltd is not responsible for damages of system because of incorrect manipulation of updating BIOS to avoid any claims from end-users.

Before You Begin:

Before you start updating BIOS with the Q-Flash™ utility, please follow the steps below first.

1. Download the latest BIOS for your motherboard from Gigabyte's website.
2. Extract the BIOS file downloaded and save the BIOS file (the one with model name.Fxx. For example, 8KNXPU.Fba) to a floppy disk.
3. Reboot your PC and press Del to enter BIOS menu.

The BIOS upgrading guides below are separated into two parts.
If your motherboard has dual-BIOS, please refer to Part One.
If your motherboard has single-BIOS, please refer to Part Two.

Part One:
Updating BIOS with Q-Flash™ Utility on Dual BIOS Motherboards.

Some of Gigabyte motherboards are equipped with dual BIOS. In the BIOS menu of the motherboards supporting Q-Flash and Dual BIOS, the Q-Flash utility and Dual BIOS utility are combined in the same screen. This section only deals with how to use Q-Flash utility.

In the following sections, we take GA-8KNXP Ultra as the example to guide you how to flash BIOS from an older version to the latest version. For example, from Fa3 to Fba.

The BIOS file is Fa3 before updating
**Entering the Q-Flash™ utility:**

Step 1: To use Q-Flash utility, you must press **Del** in the boot screen to enter BIOS menu.

Step 2: Press **F8** button on your keyboard and then **Y** button to enter the Dual BIOS/Q-Flash utility.

**Exploring the Q-Flash™ / Dual BIOS utility screen**

The Q-Flash / Dual BIOS utility screen consists of the following key components.

**Task menu for Dual BIOS utility:**
Contains the names of eight tasks and two item showing information about the BIOS ROM type. Blocking a task and pressing Enter key on your keyboard to enable execution of the task.

**Task menu for Q-Flash™ utility:**
Contains the names of four tasks. Blocking a task and pressing Enter key on your keyboard to enable execution of the task.

**Action bar:**
Contains the names of four actions needed to operate the Q-Flash/Dual BIOS utility. Pressing the buttons mentioned on your keyboards to perform these actions.
Using the Q-Flash™ utility:

This section tells you how to update BIOS using the Q-Flash utility. As described in the "Before you begin" section above, you must prepare a floppy disk having the BIOS file for your motherboard and insert it to your computer. If you have already put the floppy disk into your system and have entered the Q-Flash utility, please follow the steps below to flash BIOS.

Steps:
1. Press arrow buttons on your keyboard to "Load Main BIOS from Floppy" item in the Q-Flash menu and press Enter button.
   Later, you will see a box pop up showing the BIOS files you previously downloaded to the floppy disk.
   If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save Main BIOS to Floppy" item.
2. Move to the BIOS file you want to flash and press Enter.
   In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8KNXPU.Fba, is listed.
   Please confirm again you have the correct BIOS file for your motherboard.

![Q-Flash Utility](image)

After pressing Enter, you'll then see the progress of reading the BIOS file from the floppy disk.

![Q-Flash Utility](image)

After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"
3. Press Y button on your keyboard after you are sure to update BIOS. Then it will begin to update BIOS. The progress of updating BIOS will be displayed.

⚠ Please do not take out the floppy disk when it begins flashing BIOS.

4. Press any keys to return to the Q-Flash menu when the BIOS updating procedure is completed.

5. Press Esc and then Y button to exit the Q-Flash utility. The computer will restart automatically after you exit Q-Flash.

After system reboots, you may find the BIOS version on your boot screen becomes the one you flashed.

The BIOS file becomes Fab after updating.
6. Press **Del** to enter BIOS menu after system reboots. When you are in BIOS menu, move to **Load Optimized Defaults** item and press **Enter** to load BIOS Optimized Defaults. Normally the system redetects all devices after BIOS has been upgraded. Therefore, we highly recommend reloading the BIOS defaults after BIOS has been upgraded.

Press **Y** on your keyboard to load defaults.

7. Select **Save & Exit Setup** item to save the settings to CMOS and exit the BIOS menu. System will reboot after you exit the BIOS menu. The procedure is completed.

Press **Y** on your keyboard to save and exit.

**Part Two:**

**Updating BIOS with Q-Flash™ Utility on Single-BIOS Motherboards.**

This part guides users of single-BIOS motherboards how to update BIOS using the Q-Flash™ utility.
Exploring the Q-Flash™ utility screen

The Q-Flash BIOS utility screen consists of the following key components.

**Task menu for Q-Flash utility:**
Contains the names of three tasks. Blocking a task and pressing Enter key on your keyboard to enable execution of the task.

**Action bar:**
Contains the names of four actions needed to operate the Q-Flash utility. Pressing the buttons mentioned on your keyboards to perform these actions.

**Using the Q-Flash™ utility:**
This section tells you how to update BIOS using the Q-Flash utility. As described in the "Before you begin" section above, you must prepare a floppy disk having the BIOS file for your motherboard and insert it to your computer. If you have already put the floppy disk into your system and have entered the Q-Flash utility, please follow the steps below to flash BIOS.

**Steps:**

1. Press arrow buttons on your keyboard to move the light bar to "Update BIOS from Floppy" item in the Q-Flash menu and press Enter button.
   Later, you will see a box pop up showing the BIOS files you previously downloaded to the floppy disk.
   
   **NOTE**
   If you want to save the current BIOS for backup purpose, you can begin Step 1 with "Save BIOS to Floppy" item.

2. Move to the BIOS file you want to flash and press Enter.
   In this example, we only download one BIOS file to the floppy disk so only one BIOS file, 8GE800.F4, is listed.

   Please confirm again you have the correct BIOS file for your motherboard.

   **CAUTION**
   After BIOS file is read, you'll see a confirmation dialog box asking you "Are you sure to update BIOS?"
   
   **CAUTION**
   Please do not take out the floppy disk when it begins flashing BIOS.
3. Press Y button on your keyboard after you are sure to update BIOS. Then it will begin to update BIOS. The progress of updating BIOS will be shown at the same time.

4. Press any keys to return to the Q-Flash menu when the BIOS updating procedure is completed.

5. Press Esc and then Y button to exit the Q-Flash utility. The computer will restart automatically after you exit Q-Flash.

After system reboots, you may find the BIOS version on your boot screen becomes the one you flashed.

The BIOS file becomes F4 after updating

6. Press Del to enter BIOS menu after system reboots and "Load BIOS Fail-Safe Defaults". See how to Load BIOS Fail-Safe Defaults, please kindly refer to Step 6 to 7 in Part One.

Congratulations!! You have updated BIOS successfully!!
Method 2: @BIOS™ Utility

If you do not have a DOS startup disk, we recommend that you use the new @BIOS utility. @BIOS allows users to update their BIOS under Windows. Just select the desired @BIOS server to download the latest version of BIOS.

1. Methods and steps:
   I. Update BIOS through Internet
      a. Click "Internet Update" icon
      b. Click "Update New BIOS" icon
      c. Select @BIOS™ server
      d. Select the exact model name on your motherboard
      e. System will automatically download and update the BIOS.
   
   II. Update BIOS NOT through Internet:
      a. Do not click "Internet Update" icon
      b. Click "Update New BIOS"
      c. Please select "All Files" in dialog box while opening the old file.
      d. Please search for BIOS unzip file, downloading from internet or any other methods (such as: K8VM800M.F1).
      e. Complete update process following the instruction.
III. Save BIOS
In the very beginning, there is "Save Current BIOS" icon shown in dialog box. It means to save the current BIOS version.

IV. Check out supported motherboard and Flash ROM:
In the very beginning, there is "About this program" icon shown in dialog box. It can help you check out which kind of motherboard and which brand of Flash ROM are supported.

2. Note:
   I. In method I, if it shows two or more motherboard's model names to be selected, please make sure your motherboard's model name again. Selecting wrong model name will cause the system unbooted.
   II. In method II, be sure that motherboard's model name in BIOS unzip file are the same as your motherboard's. Otherwise, your system won't boot.
   III. In method I, if the BIOS file you need cannot be found in @BIOS™ server, please go onto Gigabyte's web site for downloading and updating it according to method II.
   IV. Please note that any interruption during updating will cause system unbooted.
   V. Do not use @BIOS and C.O.M. (Corporate Online Management) at the same time.
4-1-4 Serial ATA BIOS Setting Utility Introduction

RAID Levels
RAID (Redundant Array of Independent Disks) is a method of combining two hard disk drives into one logical unit. The advantage of an Array is to provide better performance or data fault tolerance. Fault tolerance is achieved through data redundant operation, where if one drive fails, a mirrored copy of the data can be found on another drive. This can prevent data loss if the operating system fails or hangs. The individual disk drives in an array are called members. The configuration information of each member is recorded in the reserved sector that identifies the drive as a member. All disk members in a formed disk array are recognized as a single physical drive to the operating system.

Hard disk drives can be combined together through a few different methods. The different methods are referred to as different RAID levels. Different RAID levels represent different performance levels, security levels and implementation costs. The RAID levels which the VIA VT8237R / VT8237R+ chipset supports are RAID 0, RAID 1, and JBOD.

RAID 0 (Striping)
RAID 0 reads and writes sectors of data interleaved between multiple drives. If any disk member fails, it affects the entire array. The disk array data capacity is equal to the number of drive members times the capacity of the smallest member. The striping block size can be set from 4KB to 64KB. RAID 0 does not support fault tolerance.

RAID 1 (Mirroring)
RAID 1 writes duplicate data onto a pair of drives and reads both sets of data in parallel. If one of the mirrored drives suffers a mechanical failure or does not respond, the remaining drive will continue to function. Due to redundancy, the drive capacity of the array is the capacity of the smallest drive. Under a RAID 1 setup, an extra drive called the spare drive can be attached. Such a drive will be activated to replace a failed drive that is part of a mirrored array. Due to the fault tolerance, if any RAID 1 drive fails, data access will not be affected as long as there are other working drives in the array.

JBOD (Spanning)
A spanning disk array is equal to the sum of the all drives when the drives used are having different capacities. Spanning stores data onto a drive until it is full, then proceeds to store files onto the next drive in the array. When any disk member fails, the failure affects the entire array. JBOD is not really a RAID and does not support fault tolerance.
Please follow the steps below to construct a complete RAID array:

1) Have ready your hard drives for RAID construction.  
   Note: To achieve best performance, it is recommended that the hard drives used are of similar make 
   and storage capacity.

2) Please attach the hard drive connectors to their appropriate location on the motherboard ie. IDE, SCSI, 
   or SATA.

3) Enter the motherboard BIOS and locate RAID setup (Please refer to the section on Integrated Peripherals).

4) Enter RAID setup in the BIOS and select the RAID type (For instance, enter Tab to select 
   VT8237R / VT8237R+ RAID; Ctrl + S to select Silicon Image).

5) Complete driver installation.

6) Complete RAID utility installation.

More information on steps 4 and 5 is provided. (For more detailed setup information, please visit our website 
at http:\www.gigabyte.com.tw to read or download the information you need.)

**Configuring the VT8237 SATA RAID BIOS**

The RAID BIOS setup utility lets you choose the RAID array type and which hard drives you want to make 
part of the array.

**Entering the VT8237 SATA RAID BIOS Setup Utility**

1. After rebooting your computer, wait until you see the RAID software prompting you to press Tab. The 
   RAID prompt appears as part of the system POST and boot process prior to loading the OS. You have a few 
   seconds to press Tab before the window disappears.

   VIA Technologies, Inc. VIA VT8237 Serial ATA RAID BIOS Setting Utility V2.41  
   Copyright (C) VIA Technologies, Inc. All Right reserved.
   Scan Devices, Please wait...  
   Press <Tab> key into User Window! 
   Serial_Ch0 Master : ST3120026AS  
   Serial_Ch1 Master : ST3120026AS

Press Tab to enter RAID setup utility, the **VT8237 SATA RAID BIOS** utility screen will appear. You can press 
up arrow key<↑> or down arrow key<↓> to move the selection bar and select the item that you want to 
execute.

<table>
<thead>
<tr>
<th>Channel</th>
<th>Drive Name</th>
<th>Array Name</th>
<th>Mode</th>
<th>Size(GB)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial_Ch0 Master</td>
<td>ST3120026AS</td>
<td></td>
<td>SATA</td>
<td>111.79</td>
<td>Hdd</td>
</tr>
<tr>
<td>Serial_Ch1 Master</td>
<td>ST3120026AS</td>
<td></td>
<td>SATA</td>
<td>111.79</td>
<td>Hdd</td>
</tr>
</tbody>
</table>
A. Create Array:
Press Enter on Create Array item, you will see the screen as shown below.

Before create an Array, you have to set the array mode first. Select Array Mode and press Enter, use the arrow key to select the array mode. The options are: RAID 0 for performance, RAID 1 for data protection, and RAID SPAN for capacity.
After array mode is selected, there are two methods to create a disk array. One method is **Auto Setup** and the other one is **Select Disk Drives**. **Auto Setup** allows BIOS to select the disk drives and create arrays automatically, but it does not duplicate the mirroring drives even if the user selected Create and duplicate for RAID 1. It is recommended all disk drives are new ones when wanting to create an array. **Select Disk Drives** lets the user select the array drives by their requirements. Select the **Select Disk Drives** item and press **Enter**, use the arrow key to select the hard disk. The selected hard disk will be marked a star(*) signal.

![VIA Tech. VT8237 SATA RAID BIOS Ver 2.41](image)

If you select a RAID 0 array, the block size of the array can also be selected. Use the arrow key to select Block Size and press **Enter**, then select a block size from the popup menu. The block size can be 4KB to 64KB.

![VIA Tech. VT8237 SATA RAID BIOS Ver 2.41](image)

Use the arrow key to select **Start Create Process** and press **Enter**. A warning message will appear [The data on the selected disks will be destroyed. Continue? (Y/N)], press **Y** to finish the creation, or press **N** to cancel the creation.

Important note: All existing contents in the hard drive will be destroyed after array creation.
B. Delete Array:
If you want to delete the Array, select **Delete Array** in the main menu and press **Enter**. The channel column will be activated. Select the member of an array that is to be deleted and press **Enter**. A warning message will show up, press **Y** to delete or press **N** to cancel.

Deleting a disk array will destroy all the data on the disk array except RAID 1 arrays. When a RAID is deleted, the data on these two hard disk drives will be reserved and become two normal disk drives.

C. Select Boot Array:
You can select a disk array as boot device if you want to boot operating system from an array. Boot disk array cannot be selected if the operating system does not boot from the disk array. Highlight the **Select Boot Array** item; press **Enter** and the channel column will be activated. Then highlight the target disk array and press **Enter**. Press **Esc** to go back to main menu. If you want to cancel the boot array, select the disk array that has a star(*) mark and press **Enter**, its boot setting will be canceled.
D. Serial Number View:
Highlight Serial Number View and press Enter. Use arrow key to select a drive, the selected drive’s serial number can be viewed in the last column. The serial number is assigned by the disk drive manufacturer.

```
VIA Tech. VT8237 SATA RAID BIOS Ver 2.41

Create Array
Delete Array
Create/Delete Spare
Select Boot Array
Serial Number View

View the serial number of hard disk, it is useful for identify same model disks

F1 : View Array/disk Status
↑, ↓ : Move to next item
Enter : Confirm the selection
ESC : Exit

<table>
<thead>
<tr>
<th>Channel</th>
<th>Drive Name</th>
<th>Array Name</th>
<th>Mode</th>
<th>Size(GB)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial Ch0 Master</td>
<td>ST3120026AS</td>
<td>ARRAY 0</td>
<td>SATA</td>
<td>111.79</td>
<td>Stripe0</td>
</tr>
<tr>
<td>Serial Ch1 Master</td>
<td>ST3120026AS</td>
<td>ARRAY 0</td>
<td>SATA</td>
<td>111.79</td>
<td>Stripe1</td>
</tr>
<tr>
<td>Serial Number:</td>
<td>3JT354CP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

E. View Array Status:
Press the F1 key to show the array status on the lower screen. If there are no disk arrays then nothing will be displayed on the screen.

```
VIA Tech. VT8237 SATA RAID BIOS Ver 2.41

Create Array
Delete Array
Create/Delete Spare
Select Boot Array
Serial Number View

Create a RAID array with the hard disks attached to VIA RAID controller

F1 : View Array/disk Status
↑, ↓ : Move to next item
Enter : Confirm the selection
ESC : Exit

<table>
<thead>
<tr>
<th>Array Name</th>
<th>Array Mode</th>
<th>Block Size(GB)</th>
<th>Size(GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARRAY 0</td>
<td>Stripe</td>
<td>64K</td>
<td>223.58</td>
</tr>
</tbody>
</table>
Installing the RAID drivers

To install operating system onto a serial ATA hard disk successfully, you need to install the SATA controller driver during OS installation. Without the driver, the hard disk may not be recognized during the Windows setup process. First of all, copy the driver for the SATA controller from the motherboard driver CD-ROM to a floppy disk. See the instructions below about how to copy the driver in MS-DOS mode(Note1). Prepare a startup disk that has CD-ROM support and a blank formatted floppy disk.

Step 1: Insert the prepared startup disk and motherboard driver CD-ROM in your system. Boot from the startup disk. Once at the A:\> prompt, change to the CD-ROM drive (example: D:\>). At the D:\> prompt, type the following two commands. Press ENTER after each command (Fig.1):

```
cd bootdrv
menu
```

Step 2: When the controller menu (Fig.2) appears, remove the startup disk and insert the blank formatted disk. Select the controller driver by pressing the corresponding letter from the menu. Your system will then automatically zip and transfer this driver file to the floppy disk. Press 0 to exit when finished.

Step 3: After completing the steps, boot from the Windows installation disk to install the RAID drivers. Press F6 as soon as you see the "Press F6 if you need to install a third party SCSI or RAID driver" message, then supply serial ATA controller driver by this floppy disk. Follow the on-screen instructions to complete the installation.

(Each time you add a new hard drive to a RAID array, the RAID driver will have to be installed under Windows once for that hard drive. After that, the driver will not have to be installed.)

(Note 1): For users without a startup disk. Use an alternative system and insert the GIGABYTE motherboard drive CD-ROM. From the CD-ROM drive (example: D:\) double click the MENU.exe file in the BootDrv folder. A command prompt window will open similar to that in Fig. 2.
4-1-5 2 / 4 / 6 Channel Audio Function Introduction

2 Channel Audio Setup
We recommend that you use speakers with amplifier to get the best sound effect if the stereo output is applied.

STEP 1:
Connect the stereo speakers or earphone to "Line Out."

STEP 2:
After installing the audio driver, you'll find a Sound Effect icon on the lower right hand taskbar. Click the icon to select the function.

STEP 3:
On the AC97 Audio Configuration menu, click the Speaker Configuration tab and select the 2-channel mode for stereo speaker output check box.
4 Channel Analog Audio Output Mode

STEP 1:
Connect the front channels to "Line Out," the rear channels to "Line In."

STEP 2:
After installing the audio driver, you'll find a Sound Effect icon on the lower right hand taskbar. Click the icon to select the function.

STEP 3:
On the AC97 Audio Configuration menu, click the Speaker Configuration tab and select the 4-channel mode for 4 speaker output check box. Clear the Only SURROUND-KIT check box and press OK.

When the Environment setting is None, the sound would be performed as stereo mode (2-channel output). Please select other settings (ex: Living Room) for 4-channel output.
Basic 6 Channel Analog Audio Output Mode

Use the back audio panel to connect the audio output without any additional module.

STEP 1:
Connect the front channels to "Line Out", the rear channels to "Line In", and the Center/Subwoofer channels to "MIC In".

STEP 2:
After installing the audio driver, you'll find a Sound Effect icon on the lower right hand taskbar. Click the icon to select the function.

STEP 3:
On the AC97 Audio Configuration menu, click the Speaker Configuration tab and select the 6-channel mode for 5.1 speaker output check box. Clear the Only SURROUND-KIT check box and press OK.

Basic 6 Channel Analog Audio Output Mode Notes:
When the Environment setting is None, the sound would be performed as stereo mode (2-channel output). Please select the other settings for 6 channels output.
SPDIF Output Device (Optional Device)

A "SPDIF output" device is an optional device. The SPDIF_IO cable with rear bracket could link to the "SPDIF_IO" connector (As picture.) For the further linkage to decoder, rear bracket provides coaxial cable and Fiber connecting port.

STEP 1:
Secure the metal bracket of the SPDIF Output device to the chassis back panel with a screw.

STEP 2:
Connect the SPDIF device cable to the SPDIF_IO connector on the motherboard.

STEP 3:
Connect SPDIF to the SPDIF decoder.
4-2 Troubleshooting

Below is a collection of general asked questions. To check general asked questions based on a specific motherboard model, please log on to http://www.gigabyte.com.tw

Question 1: I cannot see some options that were included in previous BIOS after updating BIOS. Why?
Answer: Some advanced options are hidden in new BIOS version. Please press Ctrl and F1 keys after entering BIOS menu and you will be able to see these options.

Questions 2: Why is the light of my keyboard/optical mouse still on after computer shuts down?
Answer: In some boards, a small amount of electricity is kept on standby after computer shuts down and that's why the light is still on.

Question 3: How do I clear CMOS?
Answer: If your board has a Clear CMOS jumper, please refer to the Clear CMOS steps in the manual. If your board doesn't have such jumper, you can take off the on-board battery to leak voltage to clear CMOS. Please refer to the steps below:

Steps:
1. Turn off power.
2. Disconnect the power cord from MB.
3. Take out the battery gently and put it aside for about 1 minute (Or you can use a metal object to connect the positive and negative pins in the battery holder to make them short for 5 seconds).
4. Re-insert the battery to the battery holder.
5. Connect power cord to MB again and turn on power.
6. Press Del to enter BIOS and load Fail-Safe Defaults(or load Optimized Defaults).
7. Save changes and reboot the system.

Question 4: Why do I still get a weak sound after turning up the speaker to the maximum volume?
Answer: Please make sure the speaker you are using is equipped with an internal amplifier. If not, please change another speaker with power/amplifier and try again later.

Question 5: Sometimes I hear different continuous beeps from computer after system boots up. What do these beeps usually stand for?
Answer: The beep codes below may help you identify the possible computer problems. However, they are only for reference purposes. The situations might differ from case to case.

→ AWARD BIOS Beep Codes
   1 short: System boots successfully
   2 short: CMOS setting error
   1 long 1 short: DRAM or M/B error
   1 long 2 short: Monitor or display card error
   1 long 3 short: Keyboard error
   1 long 9 short: BIOS ROM error
   Continuous long beeps: DRAM error
   Continuous short beeps: Power error
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Then select your language to enter the system.